



# Manufacturing with Intel® Pentium® 4 Processor in the $\mu$ PGA Form Factor

With Reference Design  
**Part I**



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  - to reduce **C**ustomer **L**ine **F**allout (CLF) → equating to higher 1st pass line yields, reduce **C**ustomer **I**nduced **D**amage (CID) returns and reduce **N**o **D**efect **F**ound (NDF) returns.
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# Session Agenda

- **Mechanical Features with Overview**
- Reference Design
- Manufacturing Considerations
- Production Logistics

# Intel® Pentium® 4 Processor in the $\mu$ PGA 478 Pin Package: Overview Information

- Updated product overview reference information is located at the following URLs:

<http://developer.intel.com/design/Pentium4/>

In particular, the product overview link to:

<http://developer.intel.com/design/Pentium4/prodbref/>

And the product support / documentation link to:

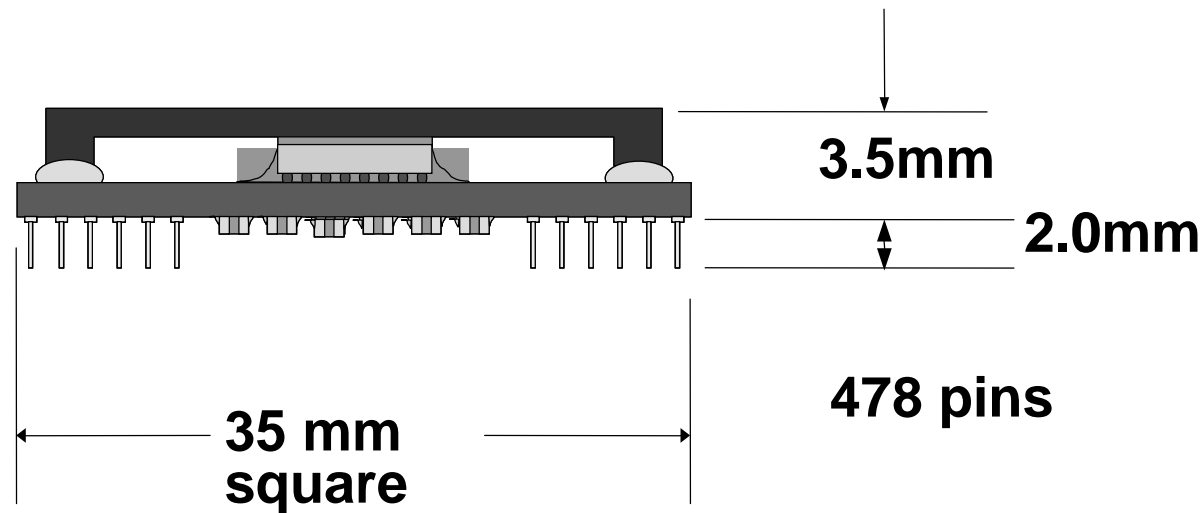
<http://developer.intel.com/support/processors/pentium4/docs.htm>

Which contains the product datasheet and design guidelines

# Intel® Pentium® 4 Processor in the $\mu$ PGA 478 Pin Package: Overview

	<b>Pentium 4 Processor- 423 Pin</b>	<b>Pentium 4 Processor – 478 Pin</b>
<b>Product Overview</b>	Pentium 4 Processor die on 0.18 micron process	Pentium 4 Processor die on 0.18 or 0.13 micron process
<b>Packaging</b>	OLGA on Interposer	35mm $\mu$ PGA
<b>Socket</b>	PGA423	$\mu$ PGA478
<b>Chipset</b>	Intel® 850	850, Intel® 845
<b>Board FF</b>	6 layer ATX	ATX, $\mu$ ATX
<b>Data Bus</b>	400 MHz	400 MHz

# MA Intel® Pentium® 4 Processor in the $\mu$ PGA 478 Pin Package: Mechanical Features



# Intel® Pentium® 4 Processor in the $\mu$ PGA 478 Pin Package: Mechanical Features

ALL  
DIMENSIONS  
IN mm

